

Issue Date: February 12, 2003  
Closing Date: February 24, 2003  
Closing Time: 12:00 EST

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SUBJECT: Integrated Water and Coastal Resources Management  
(IWRM)

Ladies/Gentlemen:

THIS IS NOT A REQUEST FOR PROPOSAL. USAID IS PREPARING FOR ISSUANCE OF A REQUEST FOR PROPOSALS (RFP) FOR THE SUBJECT PROGRAM of Integrated Water and Coastal Resources Management (IWRM). USAID IS SOLICITING COMMENTS FROM INTERESTED PARTIES, IN ORDER TO FURTHER REFINE THIS DRAFT SCOPE OF WORK (DSOW).

THE GOVERNMENT CONTEMPLATES AWARD OF THREE (3) OR MORE INDEFINITE DELIVERY, INDEFINITE QUANTITY CONTRACT (IQC OR IDIQ). THE INDEFINITE QUANTITY CONTRACTS (IQC'S) WILL BE AWARDED UNDER FULL AND OPEN COMPETITION, PARTIAL SET-ASIDE FOR SMALL BUSINESS CONCERNS, AND SET-ASIDE FOR SMALL DISADVANTAGED BUSINESS (8[A]) CONCERNS. THE TOTAL ESTIMATED COST FOR THIS SECTOR WILL BE TWO HUNDRED FIFTY MILLION US DOLLARS.

Your comments will be appreciated and considered as we finalize the RFP for the proposed contract. No information on Pricing, Competition, Instructions to Offerors or Evaluation Criteria is available at this time.

Answers to the questions will be posted in the Solicitation (contractors will not be identified with the question). Comments may or may not be incorporated in the Statement of Work. Comments will be accepted until February 24, 2003, 12:00 EST. All comments shall be addressed to Bettie F. Bowles in writing at (Email preferred: [bbowles@usaid.gov](mailto:bbowles@usaid.gov)), fax: 202-216-3396, or by mail addressed: USAID, 1300 Pennsylvania Ave., Attn: Bettie F. Bowles, M/OP/G/EGAT, RRB 7.9-112, Washington, DC 20523.

Thank you for your interest in USAID.

Sincerely,

-S-

Theressa Pollitt  
Contracting Officer



*Technical Assistance in Integrated Water and Coastal Resources  
Management*

**C.1 Summary of Services**

The contractor's duties shall include technical assistance and engineering services related to integrated water and coastal resources management. The contractor shall furnish personnel having substantial experience, both practical and conceptual, as stated in Section C.5, Areas of Expertise , in the subject matter described by this Statement of Work and as further delineated in each Task Order.

The technical assistance activities carried out by the contractor will generally fall into a wide variety of technical assistance relating to varied aspects of IWRM. While it is anticipated that some commodity procurement and equipment installation will be called for under various task orders, most task orders will require only technical assistance and engineering services

The contractor will be expected to work closely with either host country governmental institutions (national, regional, and local) charged with management and decision-making responsibilities in the water and coastal sector or indigenous NGOs, businesses, and community/civic associations whom are stakeholders in water and coastal resources management.

Typical host-country stakeholders will include:

- Government officials at the national, municipal, and village levels;
- Legislators, including the opposition, with the concurrence of the U.S. Embassy;
- National and state regulators;
- Water and Wastewater Utilities,
- Water Users: industrial, commercial, agricultural, and residential;
- Communities, municipalities and cities,
- Professional associations, such as engineering societies;

- Non-Government Organizations (NGOs) and other interest groups;
- Water and coastal research institutes and universities.

The contractor may need, depending on the specific provisions of individual task orders, to hire local consultants and subcontract work to local stakeholder institutions. In most USAID-assisted countries, there are highly capable local experts and institutions that can serve to enhance local acceptance of, and demand for, improved management and reform, and can also benefit from capacity building.

The contractor may also be required, depending on the specific provisions of an individual task order, to devise strategies for monitoring results, developing communications, and disseminating lessons learned.

## **C.2 Coordination with Other Activities**

In many of the countries in which USAID works, there are USAID and other donor funded contractors and cooperators implementing ongoing water and coastal resources management programs. The contractor shall get direction from the task order Cognizant Technical Officer (CTO) on how cooperation and coordination with these other programs shall be best enhanced and to ensure that efforts are not duplicated.

The contractor shall work under the technical direction of the task order CTO for each task order and shall cooperate with the task order CTO to assure that the expertise provided is appropriate to the needs of the activity and that contract resources are used in a cost-effective manner.

## **C.3 Technical Programmatic Areas**

### **Overview: INTEGRATED WATER AND COASTAL RESOURCES MANAGEMENT**

The objective of this procurement is to provide USAID and the Office of Natural Resources Management in the Bureau for Economic Growth, Agriculture and Trade (EGAT/NRM) with the capacity to respond rapidly to requests from host-country field Missions, Regional Bureaus, and clients, cooperators and partners for services aimed at helping them

carry out the integrated water and coastal resources management aspects of development assistance programs.

### **Background**

Water and coastal resources are critical to sustainable development. Fresh water, in particular, is often viewed as the earth's most precious natural resource. Encompassing coral reefs, mangroves, sea grass beds, lagoons, bays and near shore waters, coastal areas contain tremendous biodiversity and provide the sheltered waters and high productivity that have attracted human settlements. However, mismanagement and degradation of freshwater and coastal resources are serious and growing problems.

Demand for freshwater resources of sufficient quantity and quality for human consumption, sanitation, agricultural irrigation, and industry will continue to intensify, as populations increase and as urbanization, industrialization, and commercial development accelerates. Similarly, coastal resources and habitats are being seriously degraded in many parts of the world. Moreover, more than half the world's population lives within 60 kilometers of a shoreline and this percentage is likely to rise to as much as three-quarters by the year 2020. These human demands are increasingly threatening the integrity and health of biologically rich aquatic ecosystems, including coral reefs, mangroves, sea grass beds, lagoons, wetlands, bays and near shore waters.

Critical water resource issues include:

- Insufficient water at times and of the quantity and quality needed for human use (e.g., domestic uses, irrigation, industrial uses, and hydropower);
- Insufficient quality and quantity of water to support ecological functions (resulting in stress on aquatic habitat and ecosystems);
- Inappropriate water and coastal resources policies, institutional arrangements and structures, financial systems, legal and regulatory authorities to achieve sustainable water and coastal resources management;

- Physical modification, conversion and development of riparian land (including wetlands) and aquatic habitat;
- Contamination of surface and groundwater by inadequate pollution prevention and control (including inadequate municipal and industrial wastewater collection and treatment);
- Negative human health impacts due to the spread of waterborne disease, vector-borne disease, and water contamination;
- Depletion of groundwater aquifers;
- Soil water logging, salinization and erosion through improper irrigation and agricultural practices;
- Saltwater intrusion into coastal aquifers and;
- Hydrologic disturbance from land use/cover change.

Issues of growing water scarcity, in particular, have been instrumental in putting water on international political and national policy agendas in many parts of the world. Already, more than one billion people lack access to an adequate supply of water, and more than 2.0 billion people do not have adequate sanitation. By the year 2025, as many as fifty-two countries, inhabited by 3 billion people, will be plagued by water stress or chronic water scarcity.

This contract supports Strategic Objective (SO) 1 of the Office of Natural Resources, Bureau for Agriculture, Economic Growth, and Trade (EGAT/NRM), Increased and Improved Protection and Sustainable Use of Natural Resources, with special emphasis on Intermediate Result 1.4, Increased Conservation and Sustainable Use of Freshwater and Coastal Resources.

### **Approach**

The international community has reached a consensus over the past several years that water and coastal resources management must be carried out using a comprehensive, integrated approach. The Dublin Conference and the U.N. Conference on Environment and Development (UNCED) in 1992 laid the groundwork for and formalized Agenda 21, which

reflects elements of the international consensus. These were further strengthened and elaborated in the Second World Water Forum in March of 2001 in The Hague and at the World Summit on Sustainable Development in Johannesburg in August/September of 2002. Water is a finite and vulnerable resource, an economic good for which there are competing uses, including uses for industrial purposes, domestic water supply, hydropower, irrigation and natural ecosystems. Unwise use of water and coastal resources will undermine productivity and intensify local and national Transboundary conflicts. Water's use, therefore, must be integrated among different economic demands, generally within a larger framework of national economic and social policy. Water and coastal resource objectives should be taken into account in other economic sector and environmental plans (e.g., for agriculture, forestry, biodiversity, health, fisheries, urban development, energy, tourism, industry, and pollution prevention and control).

The integrated approach necessitates the involvement of all sectors that either use or affect freshwater and coastal resources. Such an approach recognizes the importance of water in many different sectors, and the need to coordinate activities in order to realize the maximum benefit from the resource.

An integrated approach to water and coastal resources management must be based on the proper "valuation" of water and any comprehensive management effort will involve private sector participation, public/private partnerships and cost recovery. In addition, the management of water and coastal resources should be based upon a strongly participatory approach to decision making, with particular recognition given to gender issues and the role of women. Integrated Water and Coastal Resources Management includes participation from all interested and affected parties, and should include representation for environmental concerns and communities. Community involvement and participation, in particular, is key to this integration process.

Finally, water is an integral part of the ecosystem, as well as a social and economic good. Therefore, it is critical that water and coastal management efforts take into full account the health and operation of aquatic ecosystems on which they are based, and that the environmental value of fresh water and coastal resources be recognized when making decisions on water allocation and

use. The conservation of biodiversity and aquatic habitat and ecosystems will establish parameters for water resource planning and management, such as the need to maintain minimum in-stream flows, estuarine inflows and to anticipate the ecological impact of hydrologic modifications.

#### **SPEIFIC TECHNICAL ACTIVITY AREAS**

Under the proposed Contract, the Contractor(s) shall provide technical services in the areas discussed below to the EGAT Natural Resources Office (EGAT/NRM) and other USAID field missions and other operating units, and through them to host country institutions (public sector, NGO, and private sector).

#### **C.3. (a) Data Collection, Assessment and Analysis**

Effective integrated water and coastal resources management requires accurate and timely information on a variety of factors. This includes information on the meteorological and hydrologic characteristics of the resources, the political, institutional, legal, and economic considerations affecting alternative resource uses, and the biological characteristics and ecological processes underlying the viability of aquatic and coastal habitats.

Under the proposed contract, technical assistance services will be procured which relate to the collection of data on water and coastal resources, the assessment of the conditions and threats to those resources, and the analysis of options for sustainably using and conserving them. These services include (but are not limited to) the following:

### **Data Collection and Dissemination**

- Developing recommendations for monitoring the health and use of water and coastal resources;
- Supporting, through technology transfer, training and the provision of technical advisory services, the establishment of cost-effective data collection systems and databases on water and coastal resources and resource management issues. This will include support for data collection, storage, monitoring, processing and analysis, including the use of hydrologic and hydro met models, forecasting, remote sensing and Geographic Information Systems (GIS);
- Gathering meteorological, hydrological, and biological information on water and coastal resources, through inventories, surveys and other approaches;
- Establishing networks (electronic and otherwise) for wide scale dissemination of this information on water and coastal resources.

### **Assessment and Analysis**

- Assessing ecological conditions, characteristics, and the potential ecological and socioeconomic impacts and risks of projects and programs;
- Analyzing water and coastal resources management issues (including institutional, legal, policy, financial, economic, human resource, and infrastructure issues), and developing options for effective and integrated water and coastal resource management;
- Identifying potential conflicts (including transboundary water conflicts) and predicting/forecasting future problems, including droughts, water shortages, and the potential extent of, and damage resulting from, flooding;
- Promoting local, community, national and/or international cooperation in assessing and analyzing water and coastal resources;

- Developing options and recommendations for action to conserve and protect aquatic ecosystems, including rivers, lakes, estuaries, wetlands, mangroves, sea grass beds and coral reefs;
- Assessing the impact of global climate change on water and coastal resources, including identification of cost-effective mitigation and adaptation strategies.

### **C.3. (b) Strategic Planning and Design**

USAID operating units, including Missions and Regional Bureaus, and host country institutions, require technical assistance in the area of integrated water and coastal resources planning. The services that may be required include (but are not limited to) the following:

- Assisting USAID units in developing strategic objective frameworks, results packages, and in identifying targets and indicators related to water and coastal resource programs;
- Assisting USAID units in the design or redesign of water and coastal resources activities and programs (either as stand-alone efforts or as components of other programs);
- Helping host countries develop integrated water and coastal resources management strategies and action plans, and strengthening institutional capacity to address planning aspects of the integrated nature of water and coastal resources;
- Helping host countries integrate water and coastal resource management concerns into their overall national, regional, or local development plans;
- Ensuring that water and coastal resource protection and conservation objectives are incorporated into the preparation of other economic sector plans;
- Promoting public/stakeholder participation in the preparation of water and coastal resources strategy and action plan development;
- Assisting in problem identification and conflict resolution, for example, international transboundary water and coastal resources issues.

### **C.3. (c) Implementation and Program Management**

The proposed contract will enable USAID missions to procure longer-term services, including resident technical advisors, for the actual implementation and management of water and coastal resources activities. These activities will include (but are not limited to):

- The development of enabling water and coastal management policies and institutional capacities for implementation at local, regional and national levels;
- The development of participatory, locally-based models of effective water and coastal resources site management -- models that promote partnerships among government agencies, NGOs, community-based organizations, and the private sector, and ensure full incorporation of the principles of sustainable resource use (including long-term habitat conservation and protection);
- Implementation of parts of locally developed Integrated Water and Coastal Resources Management plans, including both engineering (hard) and institutional (including software) aspects. Projects and activities may involve integration of data collection with decision support systems and training to for successfully using and sustaining these systems.

### **C.3. (d) Performance Monitoring**

Under the proposed contract, assistance may be provided to USAID operating units, including Missions and Regional Bureaus, and host country institutions, in the area of performance monitoring for integrated water and coastal resources programs. Such services may include (but are not limited to):

- Assisting Missions, regional bureaus, or EGAT/NRM to develop performance monitoring systems and indicators at the strategic, sectoral, and activity levels for water and coastal resources programs; and
- Providing Missions, regional bureaus, and the EGAT/NRM with technical assistance to track achievement toward

stated water and coastal resource management objectives.

**C.3. (e) Support for Enhanced Information Sharing, Cooperation and Coordination**

EGAT/NRM provides technical expertise and support services and leadership to the State Department, USAID, and other U.S. Government delegations, as well as to its overseas partners. This is done at numerous conferences associated with international programs and initiatives, including: the Convention on Biodiversity, the Convention on International Trade in Endangered Species, the Ramsar Convention on Wetlands, the Framework Convention on Climate Change, and the International Coral Reef Initiative. USAID may require technical and information support services in connection with discharge of these international programs and initiatives participation responsibilities. These services may include (but will not necessarily be limited to):

- Contributing to, and helping to organize and execute, conferences seminars and workshops to facilitate collaboration and share information on integrated water resources and coastal management among field missions, host countries and other donors;
- Providing technical support and information in connection with national, regional and international programs, initiatives, conventions and agreements to help advance U.S. and USAID interests and objectives in integrated water and coastal resource management.

**C.3. (f) Commodity Procurement**

To be responsive to mission needs, especially of those missions that have limited in-country presence and resources, and to strengthen key public units and to enhance opportunities for joint activities between the United States and host country private sector entities, USAID's partners in the public and private sectors will, from time to time, require equipment and other commodities. This could include innovative environmental technology for demonstration, water and weather equipment and commodities, computer equipment, etc. Missions may also wish to rely on EGAT/NRM's capabilities to help to procure specialized technical commodities for their in-country programs.

Technical assistance and advisory services that may be required by the Environment Center to carry out this activity include, but are not limited to, the following illustrative examples:

- Assess, analyze, and develop specifications for commodities required by public and private organizations receiving USAID assistance; and
- Undertake the procurement of approved commodities for USAID partners according to USAID regulations.

### **C.3. (g) Grants Management**

Funds may be made available on a grant basis within the scope of this contract to accomplish some tasks. In this regard, the Contractor may be required to execute and/or administer grants under awarded task orders. Grants to community groups and non-governmental organizations (NGOs) with whom the contractor may be working on a task order are the most likely grant recipients.

[Note: The appropriate approvals/clearances are required prior to utilizing the contractor to execute and administer grants under this contract. Approvals are generally limited to situations where it is not feasible to accomplish USAID objectives through normal contract and grant instruments executed by USAID and where either: (a) the grant program is incidental and relatively small in comparison to other technical assistance activities of the contractor; or (b) the burden of executing a number of small grant activities is particularly difficult for the responsible USAID Mission or Office.] (See CIB 94-23)

### **C.4 ILLUSTRATIVE TASKS**

The following Section outlines illustrative tasks (on an "including, but not limited to" basis) by types of expertise involved. This Section is intended to provide additional information on how the skills needed within each area of expertise could be applied to the sorts of tasks that are outlined in the Statement of Work. For all tasks, emphasis should be placed on integrated and holistic approaches to water and coastal resources management, with active participation of concerned stakeholders in planning, implementing, and assessing the work. Activities should be

undertaken in the spirit of the international consensus that has emerged in recent years among governments, donors, non-governmental organizations (NGOs), and the private sector, that water should be managed: (1) in a strongly participatory way, including participation of women; (2) in an integrated and holistic manner, using a basin or watershed approach; (3) as an economic, social, and ecological good; and (4) with recognition of the ecosystem as a legitimate water user. Water resources should be managed within a comprehensive set of policies for human health, food production (including fisheries), disaster mitigation, and environmental protection. All tasks should be undertaken in ways that strengthen the capacity of developing country people, communities, and institutions to better and more effectively, carry out integrated water and coastal resources management in all its forms.

#### **Commodity Procurement Specialists**

Commodity Procurement Specialists may be asked to carry out activities such as: (1) perform all regulated and mandatory steps in the procurement process in accordance with the Federal Acquisition Regulations (FAR) and the USAID Acquisition Regulations (AIDAR) in order to solicit, negotiate, and award contracts; (2) request all appropriate approvals/clearances through USAID; (3) perform all administrative actions to ensure proper performance under each contract.

#### **Grant Specialists**

Grant Specialists may be asked to carry out activities such as: (1) perform all regulated and mandatory steps in the assistance award process in accordance with 22 CFR 226 in order to solicit, negotiate, and award grants; (2) request all appropriate approvals/clearances through USAID; (3) perform all administrative actions to ensure proper performance under each grant.

#### **Integrated Water Resources Management Specialists**

Integrated Water Resources Management Specialists may be asked to carry out activities such as: (1) assess the current status and effectiveness of water resources management practices, policies and institutions, including freshwater and coastal/marine, within a country or basin; (2) lay out participatory approaches to water resources planning and management for preparation of strategies and implementation of programs; (3) oversee and direct multidisciplinary teams to examine water management using a

multi-sectoral approach (considering technological, socio-economic, environmental, and health issues relating to quantity and quality of surface water and groundwater in terms of urban water supply and sanitation, industrial water pollution prevention and control, water conservation, agricultural irrigation, land-use, hydropower, and ecosystem protection); (4) identify and prioritize threats to protecting, conserving and sustaining water and coastal resources; (5) recommend policy, regulatory, institutional, human resource, and financial arrangements to improve water management systems; (6) develop and promote schemes for rational water use and public awareness, educational programs, and application of economic instruments such as appropriate water tariffs; (7) advise and support USAID and partners participating in regional or international discussions of issues relevant to integrated water resources management.

#### **Integrated Coastal Zone Management Specialists**

Integrated Coastal Zone Management Specialists may be asked to carry out activities such as: (1) assess the current state of integrated coastal resources management practices, policies, and institutions within a coastal region or country, relative to global concepts of best coastal zone management practices; (2) work with multidisciplinary teams in participation with local and national partners to identify and prioritize issues, problems and risks that should be addressed within a coastal zone management program; (3) identify interrelationships between biological and physical systems to ensure overall environmental sustainability; (4) recommend coastal zone management strategies and Action Plans that integrate economic development and ecosystem conservation objectives; (5) provide technical input for results frameworks and performance monitoring plans for USAID operating units involved in trying to achieve coastal zone management objectives; (6) provide technical advice and assistance on selected special topics such as mariculture, fisheries, coral reef management, information systems, tourism, zoning, and marine pollution; (7) advise and support USAID and partners participating in regional or international discussions of issues relevant to coastal zone management.

#### **Land Use Planning Specialists**

Land Use Planning Specialists may be asked to carry out activities such as: (1) lead multidisciplinary teams engaged in land use planning for urban, rural, forested, or

agricultural areas in the context of water resources management, coastal zone planning and watershed planning, including applications of geographic information systems (GIS); (2) apply hydrologic modeling and hydrologic forecasting (both real-time and projected) to determine impacts of land-use on water resources; (3) develop recommendations for institutional, financial and regulatory arrangements for dealing with the land-use planning aspects of coastal zone management, urban management, watershed management, aquifer management, aquatic/riparian ecosystem and habitat management, and overall water management, so as to ensure social and gender equity, stakeholder participation and the achievement of sustainable water and coastal resources management objectives.

#### **Water and Coastal Resources Planning Specialists**

Water and Coastal Resource Planning Specialists may be asked to carry out activities such as: (1) work with interdisciplinary teams to develop participatory Action Plans for integrated water and coastal resources management; (2) undertake efforts to develop future projection scenarios working closely with other specialists for water and coastal conditions and trends, including water balance, water development scheme and water allocation options in relation to water user and aquatic ecosystem needs satisfaction; (3) develop, apply, and disseminate procedures to evaluate water and coastal management capacities; ; (4) advise and support USAID and partners participating in regional or international discussions of water and coastal planning issues.

#### **Hydrologic Baseline Assessment Specialists**

Hydrologic Baseline Assessment Specialists may be asked to carry out activities such as: (1) assess the capacity of current hydrological data and monitoring systems in a basin or country to support water resources management decisions; (2) recommend improvements in equipment, training, human resources, and organizations; (3) work with local and national government hydrological units to gather existing data and collect new data to prepare hydrological budgets for countries and watersheds; (4) examine the interactions of surface water, groundwater, and coastal systems, so as to identify and prioritize current and future issues and problems.

#### **Watershed Management Specialists**

Watershed Management Specialists may be asked to carry out activities such as: (1) assess the current condition and trends in a watershed or basin and identify and prioritize issues, problems and threats to sustainable integrated water resources management, taking into account the condition of aquatic and riparian habitats, estuaries, groundwater, and sedimentation regimes; (2) examine interactions among water users, land use patterns, and practices of households, individuals, communities, businesses, and industries, to recommend actions to advance equity, participation, and water resources sustainability for varied stakeholders; (3) examine institutional, legal and financial systems for their effectiveness in achieving integrated watershed management objectives; (4) work with meteorologists and hydrologists to provide inputs to modeling and decision support systems for watershed hydrology and reservoir management, including appropriate responses to flood and drought situations; (5) recommend institutional arrangements to achieve effective integrated watershed and basin management, and support relevant community and resource users' associations; (6) Provide technical advice and assistance on selected special topics such as erosion and sediment control, forestry and range management, irrigation management, desertification, and information systems; (7) advise and support USAID and partners participating in regional or international discussions of issues relevant to watershed management.

#### **Water Resources Assessment and Use Projection Specialists**

Water Resources Assessment and Use Projection Specialists may be asked to carry out activities such as: (1) examine the current and projected water use patterns and allocation scenarios; (2) work with other specialists in interdisciplinary teams to relate current and projected water use and availability to likely issues and problems, including consideration of population growth projections and urbanization/industrialization and rising future standards of living, for specific user groups and aquatic and riparian ecosystems; (3) examine the interplay among water users and competing uses, current and projected; and (4) develop options for equitable and sustainable water use and scarce water allocation among competing uses.

#### **Aquatic/Coastal Biologists**

The Aquatic/Coastal Biologists may be asked to carry out activities such as: (1) develop national and local strategies for environmentally sound management of water

and coastal resources that include protection of aquatic ecosystems and living resources; (2) develop and support local and national implementation plans for sound management of freshwater and related coastal ecosystems, (3) assessment of impacts of water resources diversions, infrastructure, and other development projects for potential impairment of water quality or aquatic ecosystems, and identify appropriate remedial measures for mitigation; (4) inventory aquatic species and assess habitat and biological health risks; (5) develop plans for aquatic habitat management, especially the roles of terrestrial and aquatic parks and protected areas and other strategies to rationalize resource use in freshwater, estuaries and coastal/marine areas; (6) develop special management plans for lakes, rivers, wetlands, coral reefs, sea grass beds, mangroves and other special aquatic habitats; (7) develop control strategies and eradication plans for invasive aquatic species such as water hyacinth; (8) advise and support USAID and partners participating in regional or international discussions of aquatic and coastal biological issues.

#### **Fisheries Management Specialists**

Fisheries Management Specialists may be asked to carry out activities such as: (1) assess finfish and shellfish stocks on a local, national, or regional scale, and recommend sustainable levels of exploitation; (2) assess the social, economic, and environmental impacts of current and planned mariculture and aquaculture operations, and recommend siting and management options to increase their sustainability and minimize impacts on habitat and native species; (3) use participatory processes to develop recommendations for improving the sustainability of fisheries, including catch limits, net size limits, seasonal and geographic restrictions, and the designation of various protected areas, on local, national, and regional scales; (4) develop and implement strategies to reduce destructive fishing techniques through appropriate mixes of enforcement and incentives; (5) recommend and implement strategies to support community-based fishers' associations with equitable gender representation; (6) advise and support USAID and partners participating in regional or international discussions of fisheries management issues.

#### **Habitat Management Specialists**

Habitat Management Specialists may be asked to carry out activities such as: (1) assess the distribution and the environmental, social, and economic importance of wetlands, rivers, lakes, coral reefs, estuaries, and other aquatic ecosystems; (2) assess threats to critical aquatic habitats and their biodiversity, such as hydrological change, pollution, and over-exploitation, and invasive species; (3) work with government, community, industry, and NGO representatives to establish policies and human and technical capacities necessary to manage and protect critical aquatic and coastal habitats, including upland watershed management, pollution prevention, parks and protected areas, buffer zones, seasonal use restrictions, etc.; (4) advise and support USAID and partners participating in regional or international discussions of aquatic and coastal habitat management issues.

#### **Parks and Protected Areas Management Specialists**

Parks and Protected Areas Management Specialists may be asked to carry out activities such as: (1) assessment of marine, aquatic, and riparian parks and protected areas, as well as protected areas in critical watersheds, in terms of ecological values and management capacity; (2) develop, recommend, and implement sites, strategies, management practices, and improvements in institutional capacity to achieve conservation and development goals by means of marine and aquatic parks and protected areas; (3) work with community groups and park staff to ensure that parks and protected areas are managed in a such a way as to met the needs and assure the support of local communities.

#### **Sustainable Tourism, Ecotourism, and Recreation Development Specialists**

Sustainable Tourism, Ecotourism, and Recreation Development Specialists may be asked to carry out activities such as: (1) assess tourism facilities and practices in terms of their reliance and impacts on marine and aquatic environments, including coral reefs and related ecosystems, beaches, wetlands, lakes, and rivers and riparian areas; (2) develop, recommend, and implement strategies to reduce the impacts of tourism on coastal and aquatic resources, assure that natural resources and attractions are not degraded by tourism, and initiate sustainable tourism development; (3) develop and implement community-based and stakeholder-based approaches to minimizing conflicts between tourism and other sectors using aquatic and coastal resources.

### **Private Sector Development/Planning Specialists**

Private Sector Development/Planning Specialists may be asked to carry out activities such as: (1) assess needs, opportunities, and resources available to commercial and private users of aquatic and coastal resources (e.g., farmers, fishers, tour and hotel operators, industries), with attention to equity issues; (2) develop and implement strategies to meet financial and environmental needs of the private sector, including consideration of local and international trade issues; (3) facilitate stakeholder communication to foster agreements on resource management and to disseminate best practices in an industry or region; (4) facilitate communication between government officials and the private sector to develop effective environmental standards, encourage voluntary compliance, and improve government capacity in this and related sectors.

### **Environmental Health and Vector Control Specialists**

Environmental Health and Vector Control Specialists may be asked to carry out activities such as: (1) assess health risks and evaluate positive and negative implications of water and coastal management activities (including irrigation, sewage treatment, dams and diversions, water supply, and the exploitation of aquatic habitats) for human health (including microbial pathogens, vector-borne diseases, parasites, food security, and toxic industrial and agricultural chemicals); (2) develop and implement strategies to reduce threats to health by measures such as controlling disease vectors, improving potable water quality, and reducing industrial and agricultural pollution; (3) develop and implement strategies to mitigate or prevent the spread of disease and malnutrition potentially associated with water resources development, wastewater collection and treatment.

### **Hydropower/Energy Specialists**

Hydropower/Energy Specialists may be asked to carry out activities such as: (1) evaluate the environmental and socioeconomic effects of current and proposed hydropower facilities and reservoir/dam management plans; (2) recommend siting and management measures to mitigate social and environmental impacts of hydropower, and support local officials and communities to implement these measures; (3) develop the capacity of national and local institutions to sustainably plan and manage all aspects of hydropower development; (4) advise and support USAID and

partners in regional and global considerations of hydropower development and management.

#### **Irrigation and Drainage Specialists**

Irrigation and Drainage Specialists may be asked to carry out activities such as: (1) evaluate the environmental and socioeconomic effects of current and proposed irrigation systems and related water diversion and storage facilities; (2) recommend and implement management strategies to increase the sustainability and efficiency of irrigation and drainage systems on both the watershed- and on-farm levels (including consideration of water sources, collection and distribution systems, soil and drainage water quality), and develop local capacity to carry out these functions; (3) develop, with the participation of users, water tariff systems that will cover the costs of operation and maintenance, and encourage investments in efficient water management practices; (4) strengthen and facilitate the formation of water users associations for the management of irrigation systems.

#### **Soil and Water Conservation Specialists**

Soil and Water Conservation Specialists may be asked to carry out activities such as: (1) evaluate the status of soil and water resources, including threats to these systems and the local management capacity to respond to these threats; (2) develop, recommend, and implement strategies for control of erosion, agricultural runoff, Stalinization and water logging, and related aspects of watershed management; (3) work with national and local partners to improve capacities in soil and water conservation, in terms of extension work, institutional strengthening and policies.

#### **Global Climate Change Specialists**

Global Climate Change Specialists may be asked to carry out activities such as: (1) evaluate the impacts of current and proposed water and coastal resources management activities on emissions or sequestration of greenhouse gasses; (2) evaluate the likely effects of global climate change on national or regional water and coastal resources; (3) recommend institutional and physical adaptations and improvements to reduce the environmental and socioeconomic effects of climate change on coastal and water resources, including responses to desertification; (4) advise and support USAID and partners in considerations of the effects of climate change on coastal and aquatic resources,

including application of the most recent and most relevant results of predictive modeling.

#### **Urban Sanitation Specialists**

Urban Water and Sanitation Specialists may be asked to carry out activities such as: (1) planning and implementing construction and expansion of sewage collection and treatment systems, including investigation of re-use options and opportunities; (2) integration of sanitation activities with community health and hygiene programs, and enhancement of local participation, including attention to women's involvement; (3) identification of opportunities for decentralization and community involvement, and arrangements for financing of construction, operation and maintenance of sewage and wastewater collection and treatment facilities, with attention to possibilities for private sector involvement; (4) seek to identify low cost and innovative sewage treatment technologies and approaches, and carry out pilot programs to test encouraging innovative approaches.

#### **Urban Water Supply and Potable Water Treatment Specialists**

Urban Water Supply and Potable Water Treatment Specialists may be asked to carry out activities focusing on both the technical/engineering or the management/finance aspects, such as: (1) planning for extension of water supply services to communities lacking access to safe water supplies; (2) identification, planning and development of additional and new water supply sources; (3) development of cost recovery plans, including attention to local decentralization of management responsibility and greater community involvement and participation; (4) development and implementation of water conservation, water loss reduction and demand management programs to maximize water use efficiency; (5) water supply quality protection and expansion and improvement of safe drinking water treatment systems, complete with provision for monitoring of quality and operations and maintenance; (6) examination, planning and design of wastewater re-use opportunities for extension of limited water supplies; (7) develop appropriate links between primary health care at the community level and clean and reliable water supply; (8) assessment and development of plans for groundwater aquifer recharge zone and groundwater pollution protection provisions to safeguard groundwater sources used for drinking water; (9) identification of opportunities for establishment of protected areas (watersheds) for sustaining sources of

drinking water supply; (10) developing appropriate financing arrangements for water supply and sanitation systems, including private sector participation and cost recovery; (11) participating with other specialists in water planning and future water resources projections that include estimation of supply and demand and design of means for dealing with water supply shortages and emergency measures to be applied during periods of extreme drought.

### **Industrial Water Pollution Prevention and Control Specialists**

Industrial Water Pollution Prevention and Control Specialists may be asked to carry out activities such as: (1) examining individual industrial facilities and conducting pollution prevention and control audits, including identification of opportunities for water conservation wastewater volume reduction; (2) participating in wider water quality management and planning activities, and developing plans for industrial pollution reduction and control, both for surface and groundwater pollution; (3) recommending criteria and standards to be applied to discharges from industrial sources and recommending regulatory and incentive approaches incorporating to the greatest extent possible the "polluter pays" principle; (4) identify environmental technologies for adoption to deal with specific industrial water pollution problems; (5) recommend monitoring systems for sources and receiving waters and monitoring equipment, management systems and laboratory analysis methods.

### **Water Demand Management and Water Conservation Specialists**

Water Demand Management and Water Conservation Specialists may be asked to carry out activities such as: (1) assessing needs and opportunities for water conservation from the community to the national level, including public awareness campaigns, recommendations for technology choices, and changes in practices, for domestic, government, and commercial/industrial water users; (2) develop strategies and implement programs for water demand management at the community and national levels; within a Team setting with other specialists, develop water conservation plans for critical periods of water scarcity, including public information campaigns, financial incentives/penalties, and enforcement provisions; within the broader context of water management planning, contribute demand management and water conservation inputs within a larger multidisciplinary Team setting.

## **Water Quality Management/Permitting and Monitoring**

### **Specialists**

Water Quality Management/Permitting and Monitoring Specialists may be asked to carry out activities such as: (1) develop Water Quality Management Plans potentially involving both freshwater and coastal/marine waters at the community or at the national level working closely with counterpart organizations; (2) assess the state of water quality and water quality management in a community, geographic area, watershed or nation, and make recommendations to improve technologies, training, and other components; (3) determine the effectiveness of incentives and regulations, permitting and enforcement, effluent guidelines and standards and make recommendations for system improvement; (4) examine the state of water quality monitoring systems, including discharge monitoring and groundwater quality aspects, and make recommendations for system improvement and organizational changes; (5) examine laboratory capabilities and sampling procedures being used and applied for water quality monitoring and develop plans for upgrading of performance; (6) assess water quality data and model water quality to support management at the local or national level; (7) examine and develop appropriate action plans and responses to specialized surface water and groundwater quality problems and situations, including coastal salt water intrusion, irrigation return flows, pretreatment permitting, landfill leachate monitoring, soil Stalinization, and other point and non-point pollution management.

### **Urban Development and Planning Specialists**

Urban Development and Planning Specialists may be asked to carry out activities such as: (1) planning for sanitation systems extensions and renovations for urban growth and expansion; interacting with other specialists on Teams charged with planning for urban storm water drainage systems in existing and future expanding urban areas and municipalities; (2) interacting with other specialists on teams charged with addressing problems relating to floodplain management in urban areas and land use control and planning, as well as groundwater aquifer management and urban area subsidence problems linked to excessive groundwater withdrawal; (3) participation on teams involved in coastal zone management and planning and in facility citing decision making for industrial, port, infrastructure and urban expansion applications.

### **Water Recycling and Wastewater Reuse Specialists**

Water Recycling and Wastewater Reuse Specialists may be asked to carry out activities such as: (1) identify solutions for municipal, commercial, industrial, and agricultural water recycling and water reuse applications; (2) make specific recommendations for water recycling and water reuse as part of other water conservation measures and critical drought and water scarcity preparedness; (3) assist in analyses required to determine appropriate linkages between available water, treated water, water treatment systems, and the specific suitability of water from varied sources for reuse in agricultural applications, groundwater recharge applications, further industrial processing, and other uses.

### **Groundwater Aquifer Management Specialists**

Groundwater Aquifer Management Specialists may be asked to carry out activities such as: (1) determine data requirements to assess available groundwater resources for irrigation, domestic water supply and other uses; (2) examine the relationships between surface water and groundwater, and develop plans for conjunctive use; (3) identify aquifer recharge zones and develop aquifer protection recommendations, including designation of actual pollution sources, source areas, and areas of risk; (4) develop strategies and plans for groundwater monitoring (quantity and quality); (5) analyze natural and man-made groundwater problems and remedial measures; (6) determine the feasibility of remediation and artificial recharge, and develop plans and assist with implementing groundwater and related soil remediation activities for contaminated areas and to mitigate subsidence.

### **Urban Storm water Runoff Specialists**

Urban Storm water Runoff Specialists may be asked to carry out activities such as: (1) evaluate risks and identify priorities for action to manage urban storm water, particularly actions relating to pollution prevention and flooding that threatens people and property; (2) design solutions to separate or accommodate storm water in sewage collection systems; (3) identify specific actions and requirements for reducing non-point source runoff pollution from urban drainage; (4) identify and assist in implementing groundwater recharge programs.

### **Civil and Environmental Engineering Specialists**

Civil and Environmental Engineering Specialists may be asked to carry out feasibility studies, planning, and design, and EIA, of water related activities, including: (1) impoundment's, reservoirs, levees, and dams, including design and safety assessments; (2) water supply and sanitation systems; (3) water treatment systems, water metering and monitoring, water reuse schemes, and hydro-met systems; (4) well emplacement and renovation; (5) storm water control structures; (6) irrigation works and their rehabilitation; (7) participation with other experts in examination, evaluation and environmental impact assessments for proposed construction of hydropower, irrigation and water supply dams and reservoirs, port facilities, dredge and fill operations, shrimp mariculture structures, coastal and river structures and other infrastructure features associated with water, shorelines and coastal areas.

### **Hydrologists**

Hydrologists may be asked to carry out activities such as: (1) conduct water balance studies and assessments for watersheds, basins, and national territories; (2) evaluate quantity, quality, distribution, and flow of groundwater; lakes, rivers, and impoundment's; (3) perform hydrologic modeling, simulations and analyses for water management applications, including future water resources development scenarios, and application of decision support systems; (4) examine hydrological monitoring organizations and systems and make recommendations for system performance improvements, including organizational, human resources, operational, and equipment aspects; (5) assist national and watershed/basin water management units with improving flood warning systems and river and reservoir management.

### **Hydro meteorologists/Meteorologists**

Hydro meteorologists/Meteorologists may be asked to carry out activities such as: (1) perform system design and analyses and carry out modeling for weather forecasting and coupled weather and hydrologic models for predicting and monitoring rainfall and river flow conditions; (2) provide advisory services and forecasting assistance for short, medium and longer term seasonal and inter-annual weather, rainfall and water availability, taking into account regional and regional weather phenomena such as the El Nino/Southern Oscillation (ENSO); (3) evaluate and implement activities to improve hydro met services and systems for water management and disaster and emergency

response and preparedness (including floods and droughts), including organizational, human resource, operational and technical performance needs.

#### **Economists/Water Resources Economists**

Economists/Water Resources Economists may be asked to carry out activities such as: (1) analyze water resources policies, pricing, sectoral organization, regulation, incentives, and tariff structures for their effectiveness in advancing sustainable water management and economic development objectives; (2) analyze economic issues of water law and water rights, and implications for water use equity and access to water by various social and economic groups; (3) analyze economic issues of municipal services in water supply and sanitation and recommendations for organization, staffing, decentralization, and management, including tariff structures and practices; (4) analyze economic issues water allocation and use patterns, and compare agricultural, industrial and domestic water use; (5) identify and recommend financial mechanisms that advance upstream land and water management in ways that benefit downstream water users and aquatic ecosystems; (6) examine the economic value of aquatic ecosystems and their ecological functions in relation to practices and patterns of land use and development; (7) estimation of the value of tourism based upon aquatic ecological and natural resources, and the economic losses associated with water pollution, excessive sedimentation and habitat degradation; (8) provide training in economic assessment and valuation of water resources; (9) advise and support USAID and partners to in regional and global considerations of hydropower development and management.

#### **Water Policy Specialists**

Water Policy Specialists may be asked to carry out activities such as: (1) examine water policies and underlying institutional and socioeconomic factors, for opportunities to advance sustainable management of water and coastal resources broadly or within sub-sectors (including agriculture and irrigation, hydropower, fisheries, urban and industrial water and sanitation, tourism, and ecosystems functions); (2) establish, convene, and facilitate sectoral, cross-sectoral, and inter-agency group interactions to collaborate on mutually agreeable and sustainable water policy decisions; (3) provide necessary information or information systems to support policy decisions; (4) provide training in water policy; (5)

support and facilitate regional and trans boundary discussions of water quality and allocation.

#### **Water Law/Environmental Law Specialists**

Water Law/Environmental Law Specialists may be asked to carry out activities such as: (1) examine the effectiveness of laws and regulations and their application for sustaining water and coastal resources and protecting the water resource base; (2) develop and recommend options for improvements in water law and related institutional and regulatory structures for improving water sector performance; (3) examine water law in relation to indigenous peoples and their traditional claims and values for water, access to water and fishing; (4) examine legal changes to improve specific water sub-sector performance and sustainability including urban water supply, freshwater and coastal fisheries, industrial water use, groundwater utilization and surface and groundwater source and aquifer protection, drinking water systems, water pollution prevention and control, and irrigation systems water diversions, use, and return flows; (5) strengthen local capacity and conduct of training in Water Law and related environmental aspects; (6) examine legal aspects of a country's water sector and development of options and recommendations for strengthening those portions that are problematic; (7) support and advise USAID and its partners on trans boundary water issues and other international legal issues.

#### **Institutional Specialists**

Institutional Specialists may be asked to carry out activities such as: (1) analyze the institutional structure, function and performance of the water sector and develop recommendations to bring about reform; (2) examine opportunities and needs to decentralize the water supply and sanitation sub-sector and work with local communities and municipalities, NGOs, private management and engineering firms, and others, to implement decentralization programs; (3) examine institutional dimensions technical sub-sectors of water and coastal resources management, including agriculture, irrigation, hydropower, flood control, hydro met systems, watershed management, industrial and domestic water supply and sanitation, water quality, aquatic habitat and freshwater and coastal fisheries management, coastal zone management, and groundwater protection and management functions.

### **Community Development and Participation Specialists**

Community Development and Participation Specialists may be asked to carry out activities such as: (1) develop participation and outreach plans for all aspects of integrated water and coastal resources management; (2) conduct sensitization and other training for all levels of government staff and agencies in approaches to local and stakeholder involvement in all aspects of water and coastal planning and management, including gender sensitivity and participation of women; (3) implement community and user group participation plans for water management activities, working closely with local and government partners.

### **Environmental Education and Communication Specialists**

Environmental Education and Communication Specialists may be asked to carry out activities such as: (1) public participation campaigns for water and coastal planning and management programs, to stimulate local participation and inform the general public, as well as targeted water user groups, about the importance of water and coastal management objectives to their own interests; (2) develop communication strategies and conduct communications campaigns to provide information and change behaviors in sectors such as public water and sanitation provision and pricing, industrial pollution, clean technologies, water hygiene practices, and water and coastal conservation practices in communities, hotels and agriculture. Some communications work and related public information materials may require either use of Specialists with local language skills or translation services or use of local counterparts to translate information materials into locally appropriate languages.

### **Social Scientists/Anthropologists/and Gender Specialists**

Social Scientists/Anthropologists/and Gender Specialists may be asked to carry out activities such as: (1) work with other technical specialists to ensure attention to social, ethnic, equity, and gender dimensions of water planning, management, implementation; (2) evaluating and disseminating information on the role of women in health and hygiene, water supply, sanitation, irrigation, commercial and subsistence fisheries, and community participation across the water sector cannot be overemphasized; (3) conduct training in stakeholder involvement for minorities, indigenous peoples, women, and other groups for local and national organizations involved in water management.

### **Conflict Resolution Specialists**

Conflict Resolution Specialists may be asked to carry out activities such as: (1) work with local, national, and regional organizations, (communities, NGOs, Ministries, and the private sector) to build a common understanding of challenges, enhance communication, and build consensus regarding water policies, allocation, pricing, and related issues; (2) facilitate communication between those adversely affected by proposed water developments (e.g., dams and diversions) and project planners to create equitable and sustainable solutions through communication and adaptive problem solving; (3) engage in regional, sub-regional and bilateral communications among countries engaged in trans boundary disputes relating to water quantity, water quality, and coastal resources, including fisheries.

### **Data Acquisition and Analysis Specialists**

Data Acquisition and Analysis Specialists may be asked to examine the meteorological, hydrological, water quality, aquatic biodiversity and ecological, groundwater, municipal water utilities, irrigation system, water user, or other water sector subsystems for data acquisition, handling, storage, access, applications and modeling for effectiveness and efficiency, and to make recommendations for improvements. These Specialists will often be technical specialists within other specific areas of water and coastal management, who have particular knowledge and skills in the data and information aspects of their disciplines. Application and use of data for management and decision-making will be emphasized. Each sub-sector area may require knowledge of monitoring devices and equipment, including hardware and software that may be required to collect, store, process and use the data associated with each aspect of water and coastal resources management and planning.

### **Monitoring Systems Design and Implementation Specialists**

Monitoring Systems Design and Implementation Specialists may be asked to assess, design, and train users in information acquisition systems. These Specialists may be asked to do work on monitoring systems relating to any sub-sectors, including meteorological, hydrological, hydroelectric dams and other reservoirs, surface and groundwater water quality, biological (including fisheries), domestic drinking water, irrigation systems, and others.

### **Hydrologic Cycle Monitoring and Hydro met and Agro met Modeling Specialists**

Hydrologic Cycle Monitoring and Modeling Specialists may be asked to examine the hydro met systems of countries and watersheds, and to develop recommendations for system upgrading and improvement. These specialists may be asked to work with basin, and national or regional organizations to assist in conducting, planning, and modeling scenarios for future water development, as well as for real time water management applications.

### **Information/Data Management/Modeling/Remote Sensing-GIS Specialists**

Information/Data Management/Modeling/Remote Sensing-GIS Specialists may be required to assist in activities such as the establishment and management of data-intensive

management systems applications of water and coastal resources management, including modeling, geographic information systems (GIS), remote sensing, and other applications involving handling and use of biological, meteorological, agricultural, hydrological, social, financial, and infrastructure-related information for current operational uses and for future projections.

#### **Water Management Decision Support Systems Specialists**

Water Management Decision Support Systems Specialists may be asked to develop and work with basin-wide or other institutions to implement and operate analytical and information management systems for broad aspects of water and coastal resources, including fisheries, coastal development, reservoir management, irrigation, hydropower, water supply, and flood and drought preparedness.

#### **Training and Institutional Strengthening Specialists**

Training and Institutional Strengthening Specialists may be required for any and all technical sub-sectors of integrated water and coastal resources planning and management. Specialists may be asked to perform training in water sector assessment and planning, freshwater and coastal ecosystem management, urban water supply, sanitation and industrial water management, water quality management, urban storm water management, water conservation and demand management, water management aspects of irrigation and hydropower, drought and flood management, groundwater management and approaches to stakeholder participation. Training may be conducted in and for formal educational institutions (schools and universities), or for government, the private sector, NGOs, or communities. Institutional strengthening may require technical assistance to counterpart organizations with defining operational tasks to achieve results, and preparing recommendations for organization, staffing and staff development in selected aspects of water and coastal management. Training and Institutional Strengthening Specialists may either be expert in water resources or in training and institutional development. In some cases, training may be required in locally appropriate languages, or in other cases, Specialists may work through counterparts who possess local language skills.

#### **Project Monitoring and Evaluation Specialists**

Project Monitoring and Evaluation Specialists may be expected to carry out activities such as the following:

(1) develop and oversee results packages, especially performance monitoring plans, for water sector activities, and assist in preparation and presentation of this information; (2) develop indicators for tracking and water and coastal resources activities; (3) assist and train cooperating agencies and organizations in performance monitoring; (4) perform agency-wide assessments of activities in the water sector. Specialists may be experts in monitoring and evaluation or in technical aspects of water resources management.

#### **Technical Writing and Editing Specialists**

Technical Writing and Editing Specialists may be required to assist in activities such as writing, documenting, editing, printing, publishing, and disseminating information, including media (video, etc.) and Internet materials, on any aspect of water and coastal management, for a variety of audiences, including USAID and its partners. Technical reports may range from contractor produced to counterpart-assisted reports on such topics as Water and Coastal Resources Assessments, Basin-wide and National Action Plans, and Management Plans, as well as records of technical consultations and consultant recommendations. Under some circumstances, translations may be required in locally appropriate languages.

#### **Conference and Workshop Facilitators**

Conference and Workshop Facilitators may be required to assist in activities such as implementation of conferences and workshops, including planning, facilitation, and reporting. Workshops are likely to emphasize stakeholder participation, and may include public and private partner organizations.

#### **Human Resource Development/Training/Education Specialists**

Training and related activities may be required within any aspect of integrated water and coastal resources planning and management. Human Resources Development/Training/Education Specialists may be asked to carry out staff development and training in water sector assessment and planning, freshwater and coastal ecosystem management, urban water supply, sanitation and industrial water management, water quality management, urban storm water management, water conservation and demand management, public awareness, water management aspects of irrigation and hydropower, drought and flood management, groundwater management and approaches to stakeholder participation.

Local capacity building may be a very commonly cited goal of work undertaken through this contract. Specialists in Training and Education may be experts directly in these applied training functions or they may be technical experts in water resources who have particular experience in human resource development, continuing education, extension work, adult learning, and related skill areas.

#### **C.4 Program Management and Support**

##### **A. IQC Manager and Deputy IQC Manager**

The contractor shall designate an IQC Manager and Deputy IQC Manager to provide overall substantive, administrative and logistical management. These management responsibilities will include, as appropriate, coordinating Task Orders with other USAID-supported programs and partners. The IQC Manager and Deputy IQC Manager shall be solely responsible for the management of all Task Orders awarded under this contract. In the event, the IQC Manager or Deputy IQC Manager should change, the USAID/W CTO shall be promptly notified.

##### **B. Commodities/Equipment Procurement and Installation**

As part of the overall effort, the contractor may be required to purchase and install commodities and equipment. The procurement of commodities and equipment will normally support the provision of technical assistance, and usually not constitute the major portion of the Task Order.

Commodities/Equipment Procurement and installation. This may include:

- Assessing, analyzing, developing specifications for, and installing commodities or equipment required by, public and private organizations working with USAID assistance;
- Undertaking the procurement and/or installation of approved commodities and equipment for USAID partners according to USAID regulations.

This could include computer and office equipment, water quality monitoring, water flow management, water purification and wastewater treatment, and GIS equipment, field and training tools, and other commodities, supplies, and equipment required for assistance.

#### **C.5 IQC Manager and Deputy IQC Manager Minimum Qualifications**

The following Section lists minimum qualifications of IQC Manager and Deputy IQC Manager (these personnel do not have to be assigned full time, but must be ready to respond to management duties quickly as needed throughout the life of the contract). Illustrative tasks by types of expertise that may be included in subsequent task orders issued under this IQC are listed in Section C.4.

##### Position Title: IQC Manager/Deputy IQC Manager

Education: Master's degree (or JD) or higher for the IQC Manager position. A BA/BS or higher is required for the Deputy IQC Manager position.

Work Experience: The qualified candidates for the IQC Manager position must have: (a) ten years or more of progressively responsible work experience in managing and implementing integrated water and coastal resources programs; (b) substantial managerial and technical experience in water and coastal issues in developing countries; and (c) demonstrated strong management and coordinating skills.

The qualified candidates for the Deputy IQC Manager position must have: (a) seven years or more of progressively responsible work experience in managing and implementing integrated water and coastal resources management sector programs; (b) substantial managerial and technical experience in water and coastal issues in developing countries; and (c) demonstrated strong management and coordinating skills.

Supervisory Experience: The IQC Manager/Deputy IQC Manager must have at least 5 years of progressively more responsible supervisory work experience Including: (1) direct supervision of professional and support staff; (2)

assembling teams of water and coastal resources management professionals to respond to complex IWRM Assignments; (3) quality evaluation of staff performance and deliverables; and (4) contract management.

Position Description: The IQC Manager/Deputy IQC Manager may be asked to carry out activities such as: (1) ensuring access to and recruitment of appropriate personnel to administer and respond to technical staffing needs specified in awarded task orders; (2) overall supervision of contractor's administrative and support personnel used on this contract; (3) supervision and coordination of appropriate technical backstopping services as needed to resolve administrative, technical, and personnel issues as they arise during the conduct of all awarded task orders; (4) monitoring all task order work plans to ensure quality control and timely delivery of all deliverables; (5) preparation, review, and delivery of all financial, logistical, and other documents as scheduled for this contract; (6) initiation and preparation of Task Order documentation, including recommendation of personnel; (7) attending quarterly to monthly meetings at USAID with the Base Agreement CTO; and (8) serving as the primary contact point and liaison between the contractor and CO/CTO, and between the contractor and Chief of Party in awarded task orders.